



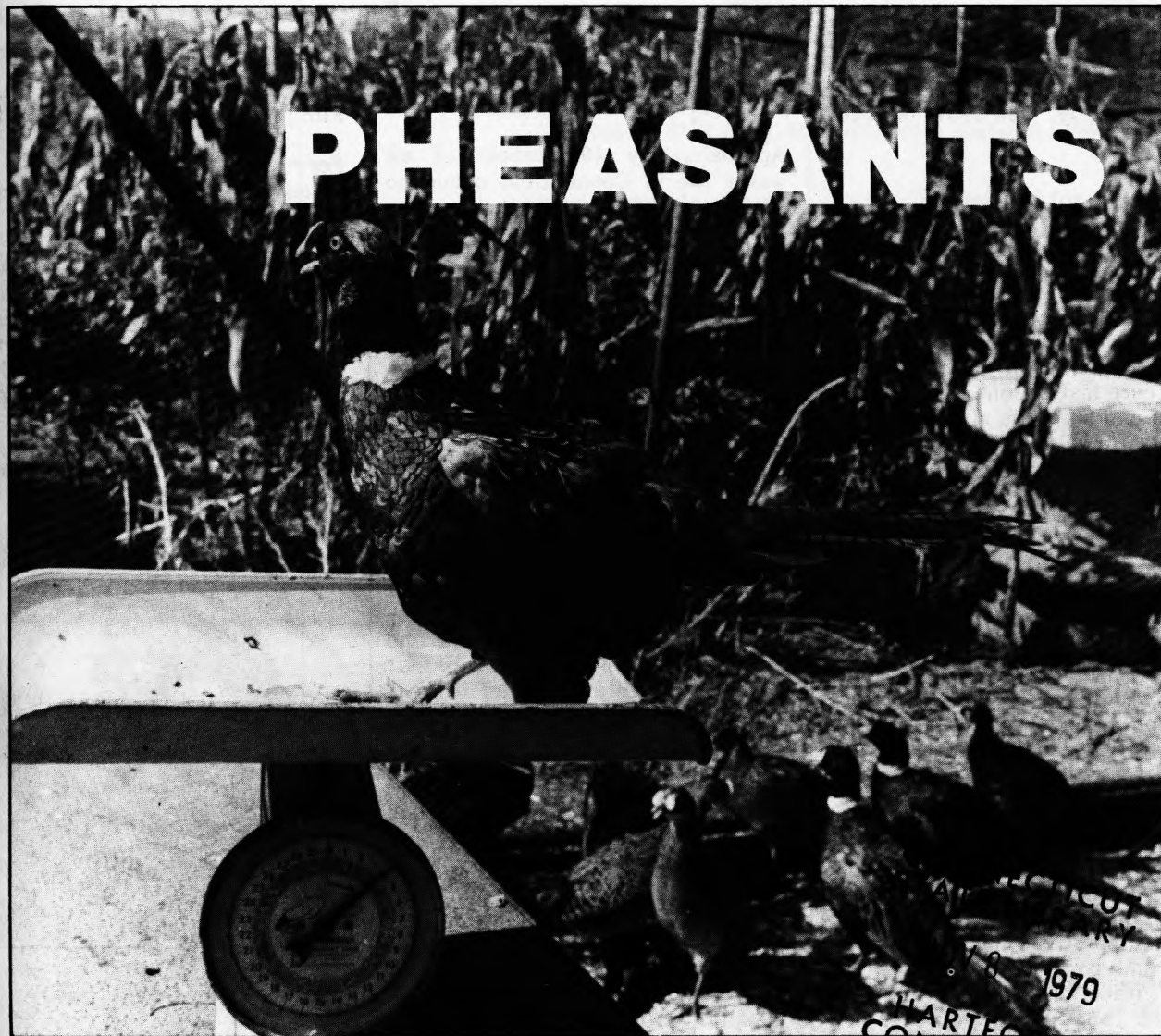
citizens' bulletin

Volume 7

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Heavyweight Favorites with Hunters

Inside An Allover Pattern for Environmental Education, 3; A Prototype, 5; Pheasants: 40,000 to Take to the Skies, 6; Hunting Season -- Readiness Is Important, 9; Hiking the Blues, 10; Watering Down Water Use, 12; FYI -- Energy Conservation Information, 15; Water Resources, 17; CAM Improves Library, 18; 208 Looks at Leachate, 19; Trailside Botanizing, 20.

FYI From p. 15

Energy Resources You Can Consult

with the requirements of the new code has been set up.

Lighting Standards (Existing Buildings): Energy saving lighting efficiency standards for existing public buildings are tentatively scheduled to go into effect in early 1980. A public information program is currently being designed to assist the public in complying with the new regulations. A system is also being designed to handle reports of infractions of the regulations. Contact: Steven Murphy, 566-5757 or 566-5862.

OTHER

Institutions: A new program will provide Federal funding assistance on a 50 percent matching basis for energy audits and technical assistance (including training) for schools, hospitals, municipal buildings, and public care institutions. In addition, schools and hospitals will be eligible to apply for similar matching funds for energy conservation capital improvements. Contact: George Greider, 566-8495 or 566-5803.

Temperature Restrictions Information:

Call Energy InfoLine 1-800-842-1648.

Energy Audit Workshops: These are held for owners and managers of hotels, motels, apartment buildings, and professional offices. Contact: Tom Skarupa, 566-8463 or 566-8464.

Recycling: A pilot program is being developed to encourage municipalities to establish their own source separation and recycling programs. Used automotive lubrication oil, glass, and paper are some of the target items. Contact: Sylvia Schindler, 566-8465.

Solar Energy: Information is available for residential, commercial, and industrial energy users who would like to conserve by using solar energy. A referral service also handles questions pertaining to other alternate energy sources, such as wood burning. Contact: Michael Sartori, 566-3394.

Public Information: Operated through the Energy Division of OPM, this office offers energy publications, a travelling exhibit, workshops, films, and speakers. Major publications include: In the Bank or Up the Chimney, an 80-page home weatherization book; A Blueprint for Home Energy Conservation - What Do You Do First? Ten Priorities; How to Stretch a Gallon of Gasoline - Ways to Cut Your Driving Costs in Half with a handy mpg chart included. Contact: Carolyn West, 566-5898, or Energy InfoLine, 1-800-842-1648. ■

POSTER PROMOTES H₂O CONSERVATION

Approximately 40 percent of all water use in Connecticut occurs in the home. Obviously, then, water conservation measures adopted by individual households can go a long way. The article, "Water Conservation Begins at Home," is a reprint of a poster prepared by Randy May and Ellen Frye to make people aware of the fact that most of us use more water than we think.

The poster/article gives a checklist of things you can do as a consumer to save both water and money. These measures could, collectively, cut your water bill and associated energy costs almost in half. The suggestions indicate where most water is consumed in the household and present conservation measures that are inexpensive and require little if any inconvenience to family members.

Copies of the poster can be obtained by contacting DEP, Rm. 112, 165 Capital Avenue, Hartford, or by phoning 566-3489. ■

ENERGY WORKSHOPS

PACE (People's Action for Clean Energy) is sponsoring guest speakers and films with question periods and refreshments at the Ethel Walker School Auditorium in Simsbury on:

October 24, 7:30 p.m.

Speakers: James Minges, Engineer, "Passive Solar Design"; Jim Foley, "Alternative Systems - Energy Conservation & Heating Systems for the Home"; Joel Gordes, Connecticut Solar Coalition, "Solar Legislation and Its Effect on the Consumer". Audience may question the panel.

October 30, 7:30 p.m.

Speaker: John Aristotle Phillips;
Film: More Nuclear Power Stations

For information, contact Judy Friedman, PACE -- Farmington Valley Chapter, 693-4377.

North Branford's Conservation Commission is planning an energy fair with a wide variety of displays on November 17. It will take place in the parking lot of the North Branford Intermediate School (or inside the school in case of inclement weather) from 10 a.m. to 3 p.m. For information, contact Penni Sharp at 484-0134. ■



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Environmental Education Matrix-- Rocky Hill Grade II

Environmental
Competencies

Ecosystems

Populations

Energy &
Resources

Economics &
Technology

Environmental
Quality

Environmental
Ethics

Subject Areas/Study Topics

Science

Food for Animals & You

The Environment

Measuring

Magnets

The Moon

Rocks & Soil

Social Sciences

Groups & Communities

Current Events

Map Skills

Language Arts

Listening

Oral Language

The Nature & History
of Language

Composition

Environmental Education -- Not for Scientists Only!

By Randy Sheinberg, Massachusetts Audubon Intern

A concept basic to environmental education is that man is an integral part of a system from which he cannot be separated -- a system that comprises man and his social and technological arrangements along with the biophysical environment. Similarly, under the State's new environmental education program, environmental education will be an integral part of a school's curriculum rather than being a separate and distinct field of study. Environmental concepts will be integrated into other disciplines -- language arts, math, social sciences, and science -- in a way that should more fully develop in the student an appreciation of and a continuing concern for his or her world.

In 1978 the DEP's Information and Education Unit added an assistant director for education. One of the major requirements of the new job was to initiate and develop a statewide program for environmental education in Connecticut's school systems. Steven Fish was chosen for the job.

"I have always thought there was a need for environmental education in the schools -- environmental education that's more than just learning how to identify trees and insects. It should be a holistic study of how people relate to and interact with their natural environment. This is something very central to our lives, especially today, and should be taught from an early age," Fish says.

With this ideal in mind, Fish began seeking the means to put it to

work. He applied for and received a CETA Title 6 Project Grant in November 1978, which has provided a staff of seven employees. He also joined forces with two other agencies, the Soil and Water Conservation Service, Hartford District, and the University of Connecticut Cooperative Extension Service. Both these agencies have been involved with bringing environmental awareness programs into the schools. Together, the three groups devised the current plan.

In order to avoid negative attitudes, the new three-agency program is trying to first spark interest in public school systems that are receptive to the program. "We want to excite people about this project, so we will concentrate on schools that will have a good possibility of success," says Fish. "We don't want to see environmental education forced on teachers."

Each of the seven CETA workers has been assigned to a particular geographical region. There he or she will offer general assistance to schools interested in environmental education while concentrating on a few particularly enthusiastic towns. Thus far, the staff has been meeting with interest in almost all of the areas approached. In each region, the DEP, Soil Conservation Service, and Extension Service expect to implement their complete program in at least one school or system which is particularly excited about environmental education.

If there is sufficient land adjacent to the school, the first stage of the three-agency environmental education program involves the design and development of an outdoor classroom. An outdoor classroom, as an integral part of the school site, expands the learning environment beyond the walls of the indoor classroom. Depending on the school site, it can consist of open lawn, wooded areas, or a combination of both. A trail system is built with designated study sites along its length. Students can use the classroom to learn firsthand about different natural environments.

Many Connecticut schools are built on areas large enough to accommodate an outdoor classroom on their premises. In this first stage of the environmental education plan, the Soil Conservation Service conducts a study to form a Conservation Plan of Development (CPD) for the school. Using maps, inventories, and aerial photos of the site, Soil Conservation staff plan the layout of an outdoor classroom trail and advise the community on its construction.

The second step, the core of the new environmental education program, lies in the integration of environmental ideas into the regular school curriculum. "It is important that environmental education be seen as more than just science. It must be integrated into every discipline. It should be taught not as something extra but as an important aspect of all other subjects," says Fish.

Initial efforts will be concentrated on the elementary school level. In order to integrate environmental education into the regular school curriculum, the DEP staff will be using a curriculum matrix. In every elementary school, a list of curriculum objectives is devised for each grade in each course of study — language arts, math, social studies, and sciences. One objective of a second grade language arts program, for example, might be to improve a student's oral language skills. Within environmental education, meantime, there are six major topic areas or competencies which can be integrated into a regular course's curriculum. These six topic areas are ecosystems, populations, resources and energy, economics and

technology, environmental quality, and environmental ethics.

One job the DEP staff has been working on is locating and developing activities through which environmental education competencies can be incorporated into the objectives of the regular course curriculum. In the case of the language arts goal of oral language proficiency, for example, a class could simultaneously deal with environmental quality. One activity might use a variety of natural objects, like twigs, leaves and berries. These are placed in a closed box. Students can feel the objects in the box without seeing them and then describe them. This activity both

priorities, and discuss curriculum suggestions with the DEP staff. Together teachers and environmental educators will decide upon the activities that are key to the curriculum objectives. Once the activities are chosen, the DEP staff members will conduct workshops for teachers to assist them in implementing the environmental objectives. The teachers should then be ready to use these and other environmental education activities in the classroom.

The Cooperative Extension Service, the continuing education arm of the University of Connecticut, is expected to be involved, along with the DEP environmental



Looking over plans for Rocky Hill's outdoor classroom: Mary Dishaw, Secretary-Supervisor of the Hartford County Soil and Water Conservation District; DEP's Steven Fish; Joseph Makuch of the Hartford County Soil and Water Conservation District; and, rear, DEP Environmental Education Specialist Francis Downey.

allows the student to improve his or her ability to communicate verbally and to learn to appreciate the outdoor environment.

While the curriculum matrix for a school is being designed, teachers will have constant input into the design. A formal teacher advisory committee will react to the various proposed activities, set

education staff, in reviewing schools' curricula prior to and during the development of the environmental education curriculum matrix as well as providing teaching materials and assisting with in-service workshops to be offered teachers once a school's matrix is developed.

The new environmental education program is making headway

Nels Barrett

Rocky Hill To Begin 'Infusing' Environmental Awareness

For an effort as all-encompassing as the new DEP, Soil and Water Conservation District, and Cooperative Extension Service program to "infuse" environmental education into school systems' curricula, you don't just go out and choose a site. You have to get a system to choose you. Which is pretty much how it happened in Rocky Hill where the prototype program is now well under way.

Some of the story goes well back. Outdoor classrooms, the usual first step in the program, have been promoted by the U.S. Soil and Water Conservation Service for about 20 years and have been popular in some parts of the country. The Hartford County Soil and Water Conservation District has helped a number of area schools and organizations set up these classrooms — including the one at the Connecticut 4-H's Auerbach Farm Resource Center in Bloomfield.

Mary Dishaw, who is Secretary-Supervisor of the Hartford County Soil and Water Conservation District as well as being active in the Connecticut Association of Conservation and Inland Wetlands Commissions, the 4-H Development Fund, and several other environmental organizations, has acted as an unofficial liaison in the new three-agency effort. In Connecticut schools, she says, "Outdoor classrooms have not reached their full potential." The reason was that while the classrooms were added, their addition was not followed by any training for teachers in their use or any help with curriculum development. "There were no guidelines for the teacher who didn't know one tree from another. Some teachers have no idea of how you use natural resources to teach the basics. So they are reluctant to use the outdoor classroom."

"You have," says Dishaw, "to have a trained teacher. Eventually I hope we can convince the academic structure in higher education to re-



Richard Schwenzer, Extension 4-H Youth/Community Development Agent, is helping to develop the curriculum for use with Rocky Hill's outdoor classroom.

quire such environmental education training for all education majors."

Another cycle of activity, meantime, was leading up to the three-agency program.

Public awareness and citizen participation has been a serious concern of the Department of Environmental Protection almost since its beginnings in 1971. During his first year as head of the agency, DEP's fourth Commissioner, Stanley J. Pac, set in progress several efforts to establish better lines of communication with the public and develop better understanding of environmental problems. "People," says Pac, "are the source of almost every kind of pollution which is not readily recycled by natural processes. It's people who must change their habits to solve our environmental problems. The basic principles of conservation and ecology should be introduced in kindergarten and continuing through the highest levels of formal education."

To p. 16

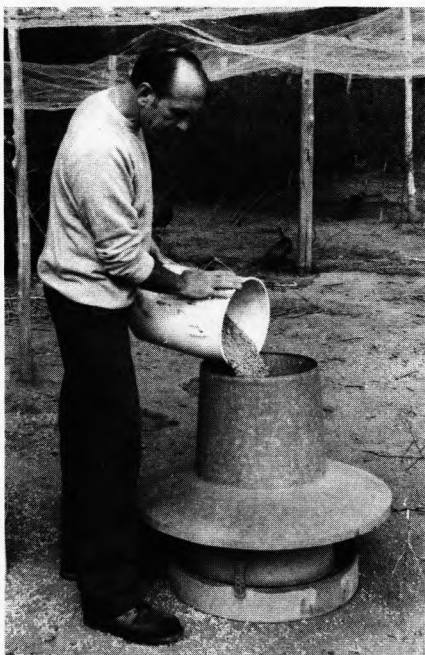
West Hill School Principal John Eagles, left, shows outdoor classroom plans to Rocky Hill School Superintendent William Goldstein, Rocky Hill's Conservation Commission Chairman Robert Fried, and DEP's Steven Fish.



John Yantosh, below, puts out feed for the 350 birds he is raising for the Higganum-Haddam Rod and Gun Club under DEP's cooperative pheasant rearing program. Bottom, he watches as Wildlife Propagation Supervisor Peter Bogue checks "specs" which reduce pecking injuries among penned birds.

By Peter Bogue, Supervisor-Wildlife Propagation, DEP Wildlife-Unit

Pheasant Program Provides



It has been nearly two centuries since that exotic stranger, the ring-necked pheasant, made its first appearance in the United States. During this period, a number of varieties have been stocked in this country, including Japanese, Mongolian, English and Chinese pheasants. The ring-necked pheasant, as it is known today, however, carries predominately the characteristics of its Chinese ancestor. The first introduction of pheasants



to the U.S. was made as early as 1790. One of the earliest attempts was made by the son-in-law of Benjamin Franklin, who liberated a number of birds on his estate in New Jersey. Many more attempts were made in this country prior to the first successful transplant which was made in 1881 in the Willamette Valley of Oregon.

The great success in Oregon stimulated other states, clubs, and individuals to propagate and release this exotic species. Today, the ring-neck has been established practically everywhere where it is feasible in the United States and Canada. Since pheasants are highly dependent on grain crops, the most substantial populations have been established in grain producing areas. Although this bird is fairly well established in New England, it cannot maintain itself in sufficient numbers to withstand hunting pressures. As a result, periodic replacement through stocking is necessary.

The first official stocking of pheasants in Connecticut occurred in 1908. A total of 88 birds were released on Terry's Island in Windsor Locks. Prior to the pheasant's introduction, the ruffed grouse and bobwhite quail were the two most important native upland game birds. These species provided adequate recreation for the small number of sportsmen of that time. Suddenly, however, the ruffed grouse population started to show a decline in numbers. At the same time, changing agricultural practices and severe winters drastically set back the bobwhite quail. It was at this point that the ring-necked pheasant was brought into the state. There was hope that this bird, which could be produced on game farms, would act as a "buffer" for the dwindling supply of native grouse and quail. The exotic bird fulfilled its role so well that it became a replacement for the bobwhite and caused grouse hunting to become almost nonexistent.

Recreation for Thousands



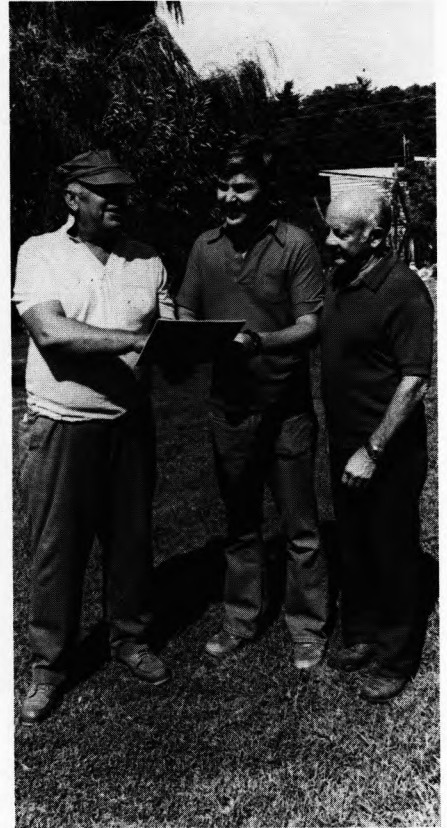
Specialized agricultural practices, urbanization, hunting pressures, and marginal habitats, however, have all contributed to the birds' inability to maintain themselves in sufficient numbers. The ring-neck, from its first introduction into Connecticut, has been maintained as a huntable species only through various types of restocking programs. Constant changes in these programs have been necessary in order to satisfy the ever-in-

creasing, ever-demanding hunting public.

At the start, in 1908, pheasants were liberated by the State's fish and game wardens in the spring of the year to supplement native breeding stock. These birds provided an increase in the huntable surplus but still were insufficient to withstand increasing pressures.

Soon after 1915, 12 week-old pheasants were purchased by the

Escaped hen, left, illustrates one risk of pheasant raising. Others include vandals, predators, and adverse weather, especially when birds are young. Below, Bogue checks paperwork on a pheasant purchase with Frank Vesekis, President of the Connecticut Game Breeders Association, left, while Tom Basile looks on.



State Board of Fisheries and Game and released during August and September. These birds again helped to supplement the sportsmen's demand, but high costs and poor returns forced this program to end in 1942.

At the same time that both breeders and 12 week-old stock were being liberated, eggs were being distributed to individuals throughout Connecticut starting in 1915. Individuals were required to hatch, raise and liberate birds at maturity in the early fall. This program reached its peak in 1934 when 19,846 pheasant eggs were distributed, but poor hatching success and rearing difficulties forced its abandonment in 1941.

Another cooperative venture was initiated in the spring of 1942. Day-old chicks were purchased and distributed to cooperating clubs and



individuals. High costs forced this program to end in 1946.

Between the years 1908-1949, the primary aim of Connecticut's pheasant stocking program was to supplement and increase the natural production of the ring-neck in the wild. The secondary aim was to increase the hunting opportunity by providing a greater number of birds in the field.

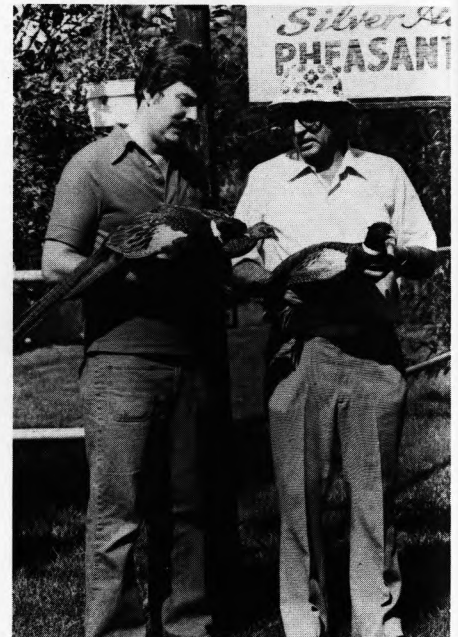
By 1949, pheasant stocking had produced an increasing number of people who wanted to participate in the sport. As a result, more emphasis was placed on providing an adequate supply of birds just prior to and during the regulated season.

The DEP Wildlife Unit's pheasant program today focuses on the release of adult ring-necks which are purchased from private game farms throughout our area. These birds are released during the season on areas open to public hunting. Connecticut's 1979 program calls for the release of 32,000 ring-necks. In addition, approximately

8,000 birds will be liberated by sportsmen's clubs through cooperative programs.

Fall releases also include ring-necks which are raised under the "six-week-old program." This program was initiated in 1946 and is still in existence today. Six-week old pheasants are purchased by the State and provided to sportsmen's clubs which have land open for public hunting and which have appropriate rearing facilities. Clubs raise the birds to maturity and release them during the open season. At one time, 41 clubs were involved with the program, releasing in excess of 12,000 birds annually. Today, only a handful of participants remain due to the costs and time involved in rearing.

The Wildlife Unit of the Department of Environmental Protection and its predecessor agencies have been actively involved in pheasant stocking for over 70 years. This program has provided thousands of sportsmen with recreation and has supplemented our native bird



populations. Over the years, the magnitude of the program has increased in order to accommodate growing numbers of sportsmen and of available habitats suitable for the purpose. Pheasant hunting has become a valued form of outdoor recreation which sportsmen can participate in close to large population centers. This is of special importance to sportsmen in a highly urbanized state such as Connecticut.

Pheasant cock gets ready, left; flies, above. Lower right, John Zapatka, owner of Silver Acres Pheasant Farm, and Bogue look over two cocks and a hen.

On our cover: Cock pheasant tips the scales at just under four pounds. DEP's pheasant program calls for release of approximately 32,000 ring-necks during the up-coming season.

Hunting Season 1979: Prepare Yourself and Your Youngster

By Frank Glista, Hunting Safety Coordinator



On October 20 thousands of the disciples of Nimrod will take to the field for the opening of the 1979 hunting season. For those hunters who are not informed, Nimrod was the great grandson of Noah and is considered to be the greatest hunter of all times. If you are to follow in his footsteps, it is time to prepare yourself for a successful season.

The condition of your firearm is a point that should not be overlooked. Too often the average hunter, after a few trips afield, will put away his gun and not even think about it until the evening before opening day. If that gun was malfunctioning, it should be taken to a competent gunsmith for repairs; otherwise, a thorough cleaning and oiling, following the manufacturer's recommendations, is in order.

Like most hunters, you probably feel you are a pretty good shot, but it is easy to lose the "touch" if you failed to practice over the past seven to eight months. A trip to the local gun club or range and a few rounds of skeet or trap will improve your chances of taking game on opening day.

Stalking game, when you stop to think about it, requires a good amount of walking. You can get your legs in shape by doing some hiking, jogging, or by getting off that riding mower and pushing for a while. Your favorite "lightweight" shotgun will feel pretty heavy, too, after a few hours if you are not in good condition.

Taking your twelve-year-old son, daughter, or neighbor's kid hunting for the first time? Connecticut law requires that youths between the ages of 12 and 16 possess a certificate indicating successful completion of a hunter safety course. These courses are conducted by over 300 volunteer hunters and are intended to instruct the novice in the safe handling of firearms.

These short courses cannot provide the experience required to make one an accomplished hunter. It is your duty as a parent or companion to instill in these young people respect for the gun and the game they hunt. Too many times an anxious first time hunter will make mistakes. It is your job as a

sportsman to correct these mistakes and help these youngsters develop confidence in themselves, develop good, safe hunting habits, and improve their shooting ability.

Discuss game laws with them and explain the reasons for these laws. Teach the youngsters to respect these laws as well as the unofficial laws of courtesy and safety. Remind them that they are the guests of property owners and that they should act accordingly.

Non-hunters and anti-hunters have every reason to be indignant and voice their disapproval of hunting when hunters violate the code of sportsmanship, and landowners who post their properties are merely reacting to the antics of the slob-hunter. Morality and good sportsmanship cannot be legislated but can be developed by good example and by the disapproval of fellow hunters.

One last suggestion, read and learn as much as possible about the game you plan to hunt. The more you know, the better your chances are for a successful and happy hunting season. ■

TAKE A HIKE!

This Fall Enjoy Some of Connecticut's Five Hundred Miles of Blue Trails...

Sales of the Connecticut Forest and Park Association's Connecticut Walk Book over the last fifteen to twenty years testify to the growing popularity of hiking. In the early 1960's, according to Secretary-Forester John Hibbard, the Association would sell an edition of about 1,000 of the books every two years. Today they print and distribute 6,000 copies of the Walk Book, now in its twelfth edition, every other year. (People aren't just reading, either, says Hibbard. Connecticut's trails show more footprints.)

Though the interest in hiking is up, Hibbard said, sporting goods stores noticed drops in sales of hiking equipment this summer because of travel restrictions imposed by the scarcity of gasoline. Hibbard expects curtailed travel will result in even greater interest in hiking Connecticut's 500 miles of Blue Trails, a system developed and maintained by the Forest and Park Association over the past 50 years. The Blue Trails, he says, offer excellent opportunities for short, middle-length, and long hikes. And all through trails include extensive lengths of ridge hiking for good fall foliage viewing.

Hibbard recommends trying segments of the less-used, more rural trails -- the Natchaug and Nipmuck in northeastern Connecticut, the Tunxis and Metacombet in north central Connecticut, and the Mattabesett in central Connecticut. On these you'll find "less litter and less suburban development." Even some trails shown in the most recent Walk Book, he notes, have fallen to suburbaniza-

tion. He steers hikers to other trails rather than the Appalachian Trail, which is, he says, over used.

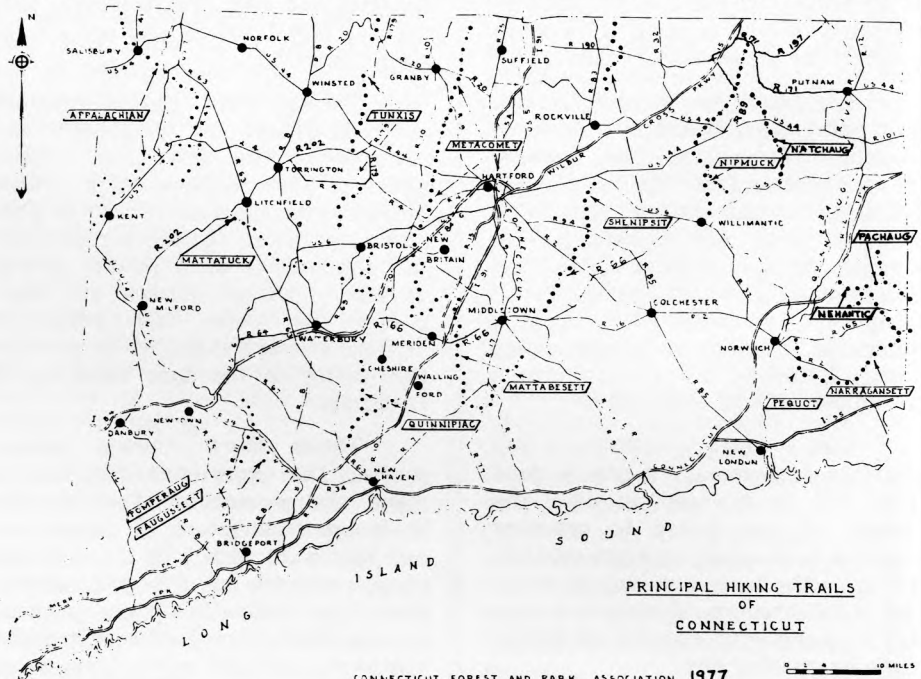
Hikers might particularly like to try the northern section of the Tunxis Trail -- the 20 miles from Satan's Kingdom Gorge in New Hartford to the Massachusetts State line. This stretch was officially reopened on October 6, 1979, at the Forest and Park Association's annual field meeting. Stretches of the southern Tunxis Trail -- in the vicinity of the Nepaug Reservoir in Burlington and New Hartford -- have also been reestablished, opening the Tunxis Trail for a total of 55 miles.

Long hikes in Connecticut are limited by the lack of overnight camping facilities for hikers. One of Connecticut's definite needs, Hibbard thinks, is facilities for overnight camping on longer trails, facilities such as are available in northern New England. (You now can find such accommodations along the Appalachian trail in the Mohawk and Housatonic State Forests and at Macedonia Brook State Park. These shelters are available at no charge

on a first come, first served basis. In Eastern Connecticut's Pachaug State Forest, the Peg Mill Shelter serves hikers on the Nehantic and Narragansett Trails and the Legendwood Shelter serves a more southern stretch of the Narragansett Trail. There is no fee, but reservations for these sites should be made with DEP's Region IV office in Voluntown, 376-2513.)

Hibbard is among the enthusiastic proponents of developing additional primitive campsites on public lands within reasonable distances from trails. New lighter gear, primus stoves, and better trail foods, he says, mean such facilities today need only provide water supplies and suitable sanitary facilities and possibly Adirondack shelters. "Such facilities," he says, "would do much to provide a resource more and more Connecticut citizens are eager to use." (He notes that distances in Connecticut are such that hikers could also plan to veer off some trails for lodgings or "fast foods.")

Users may find, Hibbard says, that access is the biggest problem



on some Blue Trails. One difficulty hikers have is parking, particularly since most have to limit themselves to day hikes. "Where roadsides are developed, there's less opportunity for trails to come out. Where there is substantial parking, it has often been used for other purposes, producing litter and landowner complaints," he says. "In some places trail access points have had to be moved because of these problems even though the problems had nothing to do with the hikers. So trail entry points are not always easy to locate."

For newcomers to hiking, Hibbard suggests trying out your stamina on trail loops such as those in Sleeping Giant State Park; McLean Game Refuge; West Woods Trails in the Cockaponset State Forest; Macedonia Brook State Park; and Gay City State Park. Maps of all these are included in the Connecticut Walk Book.



Marston Giddings

The Walk Book (12th ed.) is available from the Connecticut Forest and Park Association, 1010 Main Street, P.O. Box 389, East Hartford, CT 06108, for \$5.50 plus \$1.03 for sales tax, postage and handling. Free hiking trail maps are available for many state parks from DEP's Parks & Recreation Unit, Room 267, State Office Building, Hartford, CT 06115. ■

You Need Not Walk Alone...

By Brian Kerr, Planner,
DEP Parks & Recreation Unit

The following clubs and organizations sponsor group hiking activities in Connecticut. Many of them also publish trail guides and sponsor other outdoor activities such as canoeing, mountain climbing, bicycling, caving and camping.

AMERICAN YOUTH HOSTELS HARTFORD AREA COUNCIL

P.O. Box 10392
W. Hartford, Conn. 06110
(203) 232-2174

APPALACHIAN MOUNTAIN CLUB CONNECTICUT CHAPTER

c/o Charles F. Dorin
Executive Chairman
132 Davis Road
E. Hartford, Conn. 06118
(203) 568-6654

CONNECTICUT FOREST & PARK ASSOCIATION

1010 Main Street
E. Hartford, Conn. 06118
(203) 289-3637

GREEN MOUNTAIN CLUB CONNECTICUT SECTION

c/o Larry Cohen
Activity Chairman
34 Forest St., Apt. A-10
Hartford, Conn. 06105
(203) 728-0833

NEW HAVEN HIKING CLUB

c/o Ms. Bente Morche
55 Marvel Road, Apt. B-2
New Haven, Conn. 06515

SIERRA CLUB

69 Lafayette Street
Hartford, Conn. 06106
(203) 527-9788

Many towns' parks and recreation departments as well as some of the State's nature centers also sponsor hikes. ■

ENVIRONMENTAL EDUCATION From p. 4

across the state. The towns of Farmington, Westbrook, Andover, Lebanon, Hartford, and West Hartford have all expressed interest in the program, and some are beginning to implement the initial stages. Rocky Hill, DEP's biggest success story so far, is well on its way to having an environmental education program.

The Soil Conservation Service has completed a Conservation Plan of Development for the Rocky Hill land, and work is already being done on the outdoor classroom. The outdoor classroom is now being developed on the land adjacent to the town's two elementary schools, and a wide variety of community groups are assisting in the building. The town planner, director of parks & recreation, superintendent of schools, and conservation commission members have all contributed to the discussion and planning of the program. The entire Rocky Hill school system is involved in development of the environmental education curriculum. The DEP staff has had meetings with the school superintendent, the elementary school principals, and many teachers of different grade levels and subjects. The Rocky Hill curriculum matrix is presently being completed, and teacher workshops are expected to be conducted in the fall.

"We're very excited about Rocky Hill," says Fish. "If we can establish a good program here, we can use it as an example for the rest of the State." All in all, it looks like environmental education is on its way to becoming a regular part of Connecticut's educational curriculum. ■

LAND USE PRESENTATION

The Hartford County Association of Conservation and Inland Wetlands Commissions (HCACIWC) will meet November 7 at 7:30 p.m. at the Cooperative Extension Service, 1280 Asylum Avenue, Hartford. Their agenda offers two presentations which will run concurrently: the first, by DOT's Environmental Quality Section, will be on techniques available in soil and erosion control; the second is "How to Do a Natural Resource Inventory," conducted by Dick Schwenzer, Extension 4-H Community Development Agent. ■

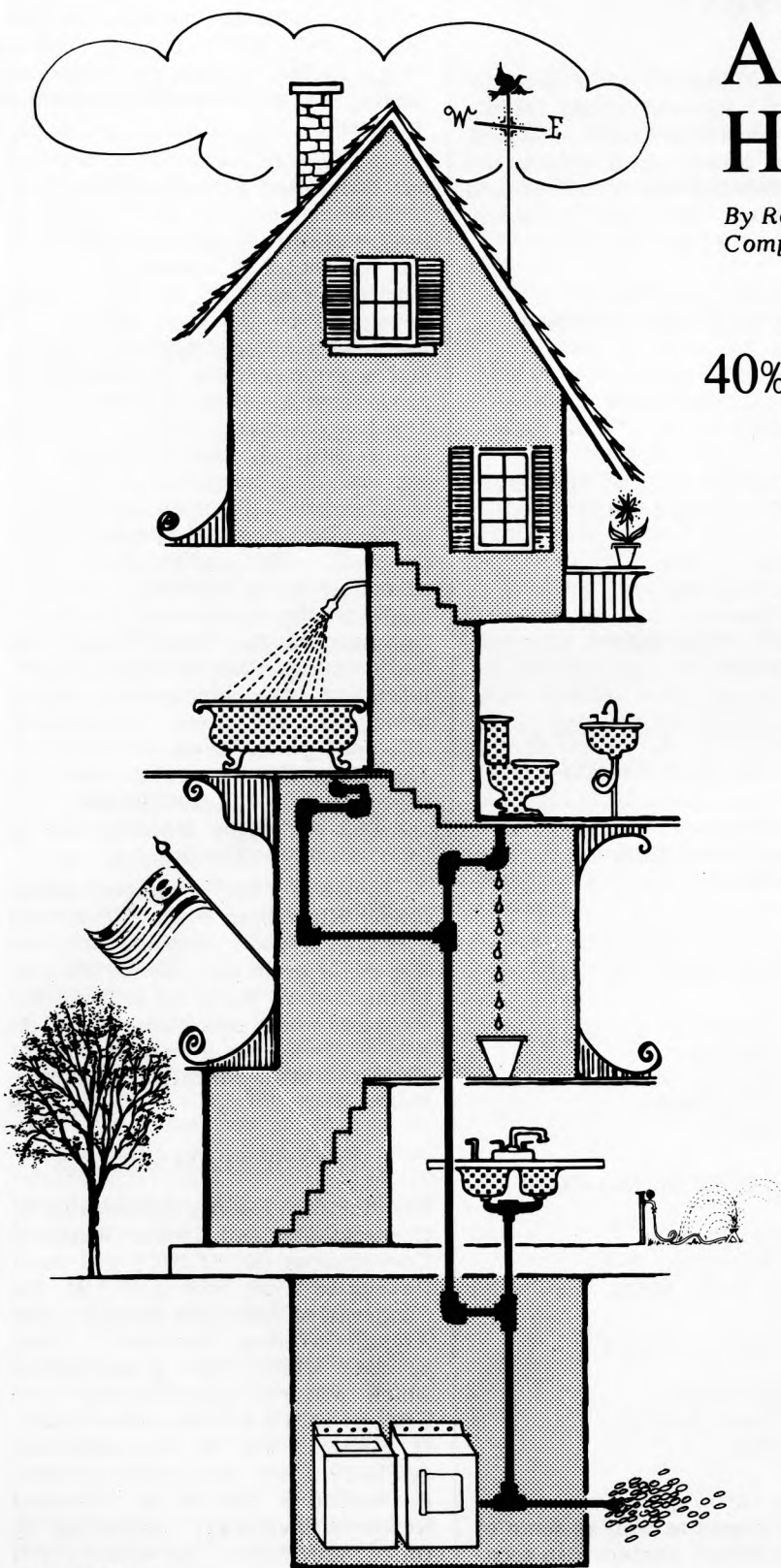
WATER CONSERVATION BEGINS AT HOME

By Randy May, Senior Sanitary Engineer, DEP Water Compliance Unit

DID YOU KNOW THAT . . .

40% of household water is used for the toilet? Here are some tips for cutting down on waste of toilet water:

- 1) Don't use the toilet as a trash disposal. Don't use five gallons of water, a normal flush, to get rid of a cigarette butt or a tissue.
- 2) Instruct your children not to flush the toilet just for fun.
- 3) Check for leakage. Add some food coloring to the tank and note if any appears in the bowl without flushing. If coloring appears you or a plumber should repair the mechanism. There are simple homeowner repair guides available at your bookstore and parts are available in many stores.
- 4) Consider water saving toilets or devices:
 - a) The simplest way to cut water use is to fill two half gallon plastic bottles with stones and place them in the tank, being careful not to interfere with the flushing mechanism. If the flush is adequate, you will save one gallon per use.
 - b) Some water saving can be effected by bending the float arm down to lower the water level. By experimenting you can set the float to allow entrance of only that amount of water needed for adequate flush.
 - c) Toilet dams are devices which fit around the tank exit hole and hold back one to two gallons of water per flushing. They cost around \$15.00 and are simple to install.
 - d) Some new devices on the market provide a "half-flush" for urine. If the full flush is needed, you merely hold the lever down for a complete cycle. These units retail for about \$10.00 to \$15.00.



Mary Jane Spring

- e) If you are considering new fixtures, consider some of the new low-flow units. Major manufacturers are offering models which use only three to three and one-half gallons per flush.
- f) At least one manufacturer has a replacement tank unit which fits on most toilet bases (in color!) and uses water pressure to boost flushing action. This unit uses only two and one-half gallons and costs about \$60.00.

In addition to these steps, there are various alternative toilet systems which are becoming increasingly popular. These include composting, incinerating, recirculating mineral oil, pressure and vacuum units and all totally eliminate water discharge. Generally, these are being used in summer homes or in repairs where conventional on-site sewage disposal systems do not work. (Note! Non-discharging systems must be approved by the Connecticut Department of Health Services. Contact your Town Sanitarian or Sanitary Inspector before purchasing any of these devices.)

30% of household water is used for the bathroom sink and shower. A bath will often use fifty gallons of water and showers use five to ten gallons per minute, depending on line pressure. Here are some simple, practical ways to reduce water use without sacrificing cleanliness or comfort:

- 1) Check all faucets for possible leakage. Most leaky faucets can be repaired by simple replacement of washers, gaskets, or other parts available at your home supply store. Reasonably handy people with a few tools can do this work. If you have any problems, or if you have leaks in the pipes or shutoff valves leading to fixtures, hire a licensed plumber to do the work. You will probably save the plumber's cost through reduced water use in about one year.
- 2) In taking a tub bath, close the stopper when you turn the water on. The lukewarm water will be warmed nicely by the hot water when it begins to flow. Don't fill the tub; use only the minimum amount necessary and after the bath has been drawn, check to be certain the faucets are completely turned off. In bathing children, consider washing two at a time.
- 3) If you prefer a shower, the least painful modification you can make is to install a flow-reducing shower head. These devices are available at many home supply stores, are easy to install, and reduce flow to two and one-half to three gallons per minute. The design of these units allows an invigorating spray at low flows.

An alternative to the flow restricted shower head is the installation of a washer with a

small hole that fits inside the female thread of the shower head and will diminish water use and increase pressure.

In all cases, you should try to reduce the length of your shower. You might consider using a bell-timer set for five minutes as a reminder to turn off the shower. Using excessive water pressure to remove dirt is wasteful and not as efficient as scrubbing briskly with a wash cloth or brush. Never leave the shower running unless you are physically in contact with it.

- 4) Your sink may be without aerators or only have conventional models. Reduced flow aerators are available for about \$2.00 and will reduce flow by half while providing a forceful stream for washing. Reduced flow aerators are a painless method of "involuntary" water conservation.
- 5) When you brush your teeth, leave the water turned off. Use a glass or paper cup to rinse your mouth at the conclusion of brushing.
- 6) When you rinse, turn on the hot water. Use the initial lukewarm water to rinse with. This allows some utilization of water while you are waiting for hot shaving or wash water.
- 7) Don't let the water run needlessly while you shave. One or two pints in the washbasin and a wet washcloth should be sufficient.

15% of household water use is from the laundry — thirty to sixty gallons per load. The most important step to take in laundering is to make sure you are really washing dirty clothes. Many of us returning from work tend to change clothes and throw the discards into the hamper. Start looking them over instead. Clothes that do not really need washing may be hung up and worn again.

You should always try to run full loads in most machines. If you have a machine which can be varied according to load, experiment to find the lowest setting possible.

When buying a new washing machine, look for models with suds-savers and adjustable water levels. Many new machines use less water than older automatic washers.

In order to protect the environment and save energy, you should try to use low phosphate and cold water detergents.

If you do any hand laundry, draw the minimum amount of water needed and do not allow the water to run while you scrub the clothes.

10% of household water is used in the kitchen. Normal kitchen practice involves a good deal of unconscious water waste, most of which can be avoided.

- 1) If you have a dishwasher you should always try to run full loads rather than partial loads. Scrape your dishes and wipe them off with a paper towel or napkin. Most modern dishwashers do not require pre-washing. Use only the dishwasher cycles you need to do the job. If the dishwasher is not doing a good job, consider having a serviceman check it for problems. Be aware that most dishwashers use twelve to seventeen gallons per load.
- 2) If you do dishes by hand, scrape and wipe dishes before putting them in water. Rather than fill a whole sink, try washing your dishes in a small plastic basin. Proper detergents and scrubbing tools will remove food more efficiently than water pressure. Stack all dishes in a drain rack and, using boiling water, rinse them all at once rather than individually.
- 3) If you are considering buying a garbage disposal, you should be aware that this appliance uses a great deal of unnecessary water. It is also the largest contributor of solids to a sewer or septic tank. This can pose a serious problem for septic tank-leachfield systems. In most cases this appliance is hard to justify.
- 4) If you run water to thaw frozen foods or to remove ice cubes from a tray, you are substituting valuable water for a little foresight. Try to plan ahead so that this waste does not occur. For example, allow ice cube trays to sit out for a few minutes and when you can remove them, keep the loose cubes in a freezer dish.
- 5) You can avoid running water to cool it. Instead keep a bottle of it in the refrigerator. Try it, you will be surprised how delicious it is.
- 6) It is important to avoid wasting water while it is being warmed. Insulating your hot water pipes and tank will save energy, water, and a considerable sum of money.

5% of normal household water use comes from your outside spigot. Besides checking for hose and faucet leaks:

- 1) Try washing the car from a bucket and saving the hose for a final rinse.
- 2) Water lawns and gardens at dusk to minimize water loss through evaporation and spare the lawn the burning effects of the sun. The water droplets serve as magnifying lenses, increasing the sun's intensity.

- 3) To hold more moisture in your garden and lawn, mulch and keep grass no less than 2" high. These practices reduce evaporation and save water.
- 4) Native plants and shrubs generally thrive with only natural rainfall.

WHY CONSERVE WATER?

Connecticut is blessed with generous amounts of annual precipitation (40-50 inches per year) so most residents of this state are aware of drought conditions and the need for strict water conservation only as theoretical problems. Floods, or an overabundance of water, have been a more common concern to New Englanders.

Several developments of recent years, however, should lead us to a serious reevaluation of our approach to home water use — and waste. Our population has increased at a rate far greater than anything envisioned by the designers of our municipal reservoir systems. Unexpected increases in rural - suburban populations have led to increased demands on groundwater supplies. Population increases have been accompanied by increased per capita water use. These factors, of necessity, mean a drastic and continuing increase in demands on a fixed supply of water.

The less water used, the less we will have to pump, purify, heat, and treat as wastewater. This means:

- 1) Costs of municipal water works and distribution systems can be held down to prevent tax increases. If you are supplied by a municipal water system you can save a considerable sum on your water bill.
- 2) Energy can be saved and energy cost reduced since pumping and heating water is expensive. This factor alone can save you a great deal of money every year.
- 3) Reduced water use means less sewage for your septic tank, and this can drastically reduce problems with leachfield systems. Malfunctioning septic systems generally cost between \$1000 and \$5000 to repair. If you live in an area with municipal sewage collection and treatment, you can reduce your sewer use charges and help limit the need for building larger and more expensive treatment plants.

The 1974 Federal Safe Drinking Water Act was designed to protect the consumer from substandard drinking water. The Connecticut Department of Health Services instituted strict water quality standards in response to the Federal mandates. Treatment needed to ensure this high quality water increases costs to the consumer.

WATER CONSERVATION HELPS FIGHT POLLUTION

By reducing the amount of clean water you consume and foul, you help protect lakes, rivers, and groundwater from public health and pollution problems. Wastewater eventually returns to surface and subsurface water systems.

To p.16

By Martina Delaney



For Your Information

What To Do After You Turn Down the Thermostat

October is Energy Conservation Month. In preparation for the winter months to follow, this October will be a month full of workshops, fairs, and programs offering information on energy alternatives and conservation measures we can use in the home, in transportation, commercially, and in industry. (See calendar below.)

The State of Connecticut is also involved with an energy conservation program through the Energy Division of the Office of Policy and Management (OPM). This division, working in cooperation with other State agencies, is promoting and conducting the following programs:

TRANSPORTATION (36% of Connecticut's energy consumption)

Ridesharing: The Commuter Incentive Program offers a computerized ride matching program, park and ride services, and bus pass subsidy programs. Businesses and industries can receive a free consultation by calling the Ridesharing InfoLine. Appointed in July of 1979, the Governor's Ridesharing Task Force is working to remove barriers to ridesharing. A ridesharing newsletter is being developed, and a statewide public awareness campaign is being developed, encouraging carpools, vanpools, and improvement of mass transit. Ridesharing InfoLine: 1-800-842-1910; Mass Transit InfoLine: 1-800-842-2220.

Traffic Operation Improvement: A public information campaign was carried out for the Right-Turn-on-

Red legislation which became effective July 1, 1979. The State's 55 miles per hour legislation will become effective October 1, 1979, making 55 mph the State speed limit with a court appearance and fine imposed for exceeding the limit.

Auto Emissions Inspection System: This will begin January 1981 as a voluntary inspection system. Compliance with emission standards is set as a condition for motor vehicle registration beginning in January 1982.

RESIDENTIAL (27% of Connecticut's energy consumption)

Residential Conservation Service: The National Energy Act requires major utility companies to offer a broad range of conservation services to homeowners, services such as audits and financing mechanisms. The state is currently studying various ways to accomplish this program which will begin in 1980. Contact: Marilyn Hesse, 566-5757.

Weatherization Assistance Program: This is a program to assist the elderly and low income families in making their homes weathertight through installation of insulation, storm windows, caulking, and weatherstripping. Contact: Department of Home Resources, 566-5344.

Energy Extension Service: This service provides energy information and assistance to individuals and families through workshops, demonstrations, lectures, and distribution

of publications. The University of Connecticut Cooperative Extension Service has responsibility for these activities. Contact Ildi von Rosenvinge, 486-4126, or Energy InfoLine, 1-800-842-1648.

Furnace Efficiency Training: This program is being conducted as a pilot program in Litchfield County during 1979-80 in cooperation with the independent Connecticut Petroleum Association. It provides additional training for fuel oil dealers and information to homeowners stressing the cost effectiveness of furnace efficiency. Contact: Marilyn Hesse, 566-5757.

State Energy Conservation Loan Fund: The fund is administered through the Department of Economic Development - Housing Division to assist by providing low cost loans for insulation, storm windows, and alternate energy systems. The funds will become available in the fall of 1979. Contact: the Housing Division, Department of Economic Development, toll free, 1-800-842-0134.

INDUSTRIAL/COMMERCIAL SECTOR (36% of Connecticut's energy consumption)

Energy Forums: Public forums are being conducted throughout the state, co-sponsored by various local Chambers of Commerce and the Business Coalition to Save Energy, a group formed by many commercial and industrial firms which have achieved significant reductions in energy costs and want to share their knowledge. Municipalities are also invited to participate. Contact: Steven Murphy, 566-5757 or 566-5862.

Assistance to Small Business: Free on-site technical information and assistance in energy conservation is provided by the Energy Division to any small business that requests the service. Contact: Neal Crowley, 566-5654.

Thermal and Lighting Standards (New Buildings): Standards for thermal and lighting operations for all newly constructed and extensively renovated buildings went into effect December 28, 1978. A training course to familiarize local building inspectors and their technical staffs

New Environmental Education Program Comes to Rocky Hill

From p. 5

The commissioner reestablished the position of Assistant Director of Information and Education for Education. And Steven Fish, in cooperation with a number of individuals and agencies, began development of the program described in the preceding article.

With the expanded program ready to go, the next step was developing an outdoor classroom and trying out the complete package. The unknown quantity: a school system.

It's at this point, according to Dishaw, that, "Everything kind of fell right in." Rocky Hill's Open Space and Conservation Commission Chairman Robert Fried visited the Auerbach Farm's outdoor classroom with his family and was impressed with what his young daughter learned on a casual tour. He wondered if this kind of learning experience couldn't be made available in the schools. And he pursued the issue.

"My idea of the most important function of an open space

and conservation commission," Fried says, "is education of the populace to an awareness of its natural resources. As chairman of Rocky Hill's commission, I felt this program would be a natural for the commission to get involved in. We need to work with the young so our next generation of adults has this awareness."

Fried not only contacted Dishaw and DEP's Fish, he also approached Rocky Hill's Superintendent of Schools William Goldstein to suggest that Rocky Hill get involved in the new program. And he found enthusiastic support.

"I think environmental education is a matter of survival," Goldstein says. "Either we learn to live with what we have, or we won't have it and we won't live."

"I'm especially pleased this project is being developed in Rocky Hill," he adds. "We have a faculty that's enthusiastic and socially concerned. We have the land, and we have the interest, and we have the will."

Goldstein proceeded to line up the support of Rocky Hill's elementary school principals, John Eagles of West Hill School, who is acting as chairman of Rocky Hill's environmental education committee, and Tony Morganti of Stevens School. Meetings and more meetings followed.

Rocky Hill's outdoor classroom, a giant loop with side loops on 32 acres adjacent to the town's two elementary schools, is almost completed. Laying out and inventorying this area has taken about 80 man-hours of work by the Hartford County Soil and Water Conservation District's District Manager Thomas Macko; Soil Conservationist Alan Horwath; and CETA worker Joseph Makuch.

Richard Schwenzer, Extension 4-H Youth/Community Development Agent with the University of Connecticut College of Agriculture and Natural Resources' Cooperative Extension Service, will be helping with Rocky Hill's curriculum development and teacher workshops this fall as well as evaluating the program in the spring.

With the expectation that the outdoor classroom will be used by a variety of other groups, from garden clubs to senior citizens, not only the conservation commission but also the Director of Parks and Recreation, Christy Hass, and other town officials have been involved.

When Rocky Hill's environmental education program gets fully up and going, Dishaw expects Superintendent Goldstein to host a conference for educators from around the State. This look at the program in action will probably include visits to actual classes and the outdoor classroom as well as sample teachers' workshops. ■

Saving Water Saves Money

From p. 14

HOW MUCH WATER DO YOU USE?

The average American uses between 55 and 75 gallons of water per day. Of this amount, about 97% is used to transport wastes. The remaining 3% is used for drinking and cooking. If you are curious or conservation-committed and have metered water, take daily readings at the same time each day for several weeks. The reading will be in cubic feet, so multiply by 7.48 and divide by the number of people residing in your household. This will give you the amount of water you use in gallons per day per person. It will also give you a good starting figure for a water conservation program. If you do not have a water meter, you will have to estimate usage by tabulating the number of times water using appliances are operated, toilets are flushed, and baths or showers taken.

YOU ARE NOT ALONE!

Homeowners involved in a water conservation program will be following the lead of many of our industries. When the Department of Environmental Protection initiated a program to eliminate industrial water pollution, it was discovered many firms were also wasting a great deal of water. Acting under a DEP order, many of our metal finishers have been able to cut water use to one-half to one-tenth of former levels. These programs have not only eliminated most industrial pollution problems but have saved firms a great deal of money in water and treatment costs.

The Department of Environmental Protection is committed to a water conservation program and is utilizing flow reduced fixtures in all its new buildings.

If we each make a small, fairly painless effort in this direction, we can conserve a valuable resource, reduce energy consumption, save money, and help to prevent public health and water pollution problems. ■

Water Resources Information Summarized

By Richard Hyde, Senior Environmental Analyst, Natural Resources Center

The U.S. Geological Survey, Water Resources Division (USGS), in cooperation with the Connecticut Department of Environmental Protection conducts water resources monitoring and investigations for the State. The Natural Resources Center of DEP works closely with the USGS to coordinate data collection programs to meet the needs of all State agencies and to ensure programs are consistent with state policies.

Since 1966 a series of state reports titled "Water Resources for Connecticut" has been published for each specific water year defined as October 1 through September 30. These reports summarize the water resource monitoring activities of the USGS and include results of stream flow and water quality during the year.

At the end of each month, a summary report, "Water Resources Conditions in Connecticut," is issued. It compares current conditions at four index gaging stations and 13 observation wells to the "normal" conditions that have been recorded since the beginning of the program. Also included are data on the contents of 16 municipal reservoirs, hydrographs of month-end water levels in 6 long-term observation wells, and the quality of water at 21 stream-gaging stations. These data furnish up-to-date information on available surface water and ground water supplies, indicate general changes in ground water

storage, and aid in the determination of periods or areas where detrimentally high or low water levels may be expected.

A summary of the Ground Water Storage Component published in the last five months of "Water Resources Conditions in Connecticut" is presented below. Information relating to the monthly report can be obtained upon request from the U.S. Geological Survey, 244-2528.

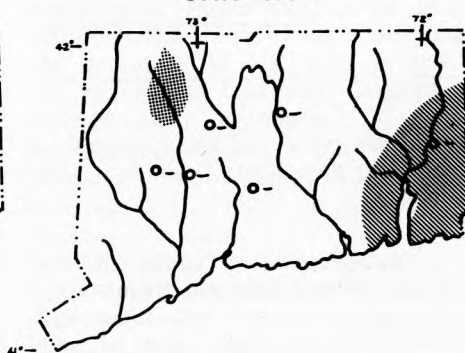
Ground Water Levels

Ground water levels throughout the spring and summer months were variable from place to place as expected, but many areas experienced more frequent periods of higher seasonal ground water rather than periods of lower levels. South-eastern Connecticut was consistently within the high range for May, June, and July while South Central Connecticut showed below normal for July and August, and Central Connecticut remained normal for the entire period.

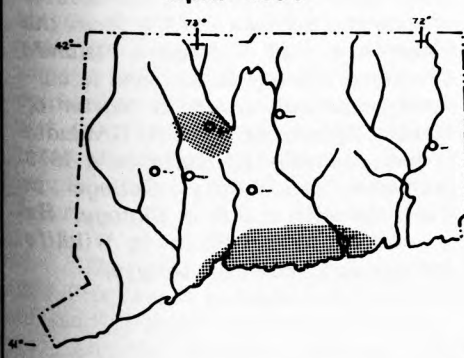
May 1979



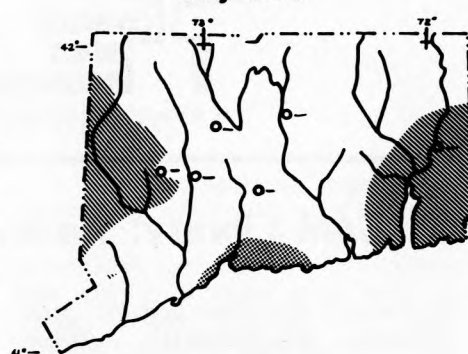
June 1979



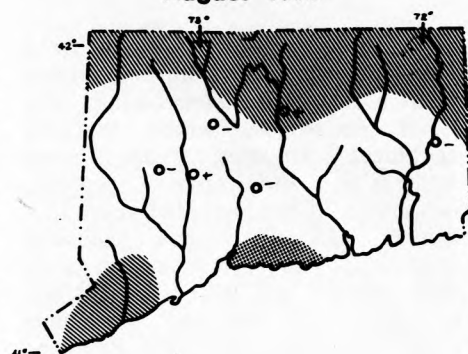
April 1979






July 1979



August 1979



-  **ABOVE NORMAL**
Within the highest twenty-five percent of record for this month
-  **NORMAL RANGE**
Between the highest and lowest twenty-five percent of record for this month
-  **BELOW NORMAL**
Within the lowest twenty-five percent of record for this month

- + Water level rose since last month.
- Water level fell since last month.

Map based on six long-term observation wells (with at least twenty years of record) and five others. Elsewhere conditions are generalized.

CAM Library: An Improved Resource for Information on the Coast

By Irene E. Gauthier and Philip O. Renzullo, Massachusetts Audubon Interns

This summer the Coastal Area Management (CAM) library underwent a complete restructuring. The CAM collection, which includes technical volumes from many sources on a wide range of subjects, has grown in the past five years to a library of over three thousand volumes. The reorganization work was carried out under a contract between CAM and the Massachusetts Audubon Society's Environmental Intern Program (EIP). The intent of the project was to reorganize the library to make it more efficient and more accessible to the user. This entailed primarily reclassification and subject-cataloging of each individual volume.

The CAM Program was established for Connecticut in 1974. From that time until the present, staff members have been examining issues surrounding the coastal area, publishing reports, and generating a lot of coastal information. The CAM library has served as a central resource for the program's development effort. The library's holdings consist of materials obtained by the staff in support of on-going projects and specific research studies. The collection is expected to continue to grow as needs arise for additional comprehensive and up-to-date information.

The first task of the twelve-week, two-person project was the physical rearrangement of the library to make space for the new subject catalog and to increase the working space available to library users. The second step was to devise a streamlined classification

system which organizes the volumes into broad subject areas and to arrange them hierarchically within each subject grouping. The major portion of the interns' work was reclassifying books and subject-cataloging each. The interns also drew up manuals to aid in future maintenance of the collection.

The new classification system uses basic 3-digit numbers ranging from 100 to 800 for eight major subject areas. Subcategories are accommodated by a simple change in the basic number. For example, "Coastal Zone Management" was assigned the number 100 in the classification system. It not only includes general texts on the subject (such as *The Water's Edge*, ed. by Ketchum) but also a complete set of CAM publications and a majority of the CZM programs from the 35 states and territories covered by the Federal Coastal Zone Management Act of 1972.

Another major subject area is "Legal and Government Resources" (600). This category is by far the largest single component of the collection. It contains materials ranging from statutes and regulations to legal commentary, reports, and plans on the federal, state and municipal levels. Specific titles include a set of the *EPA Legal Compilation* and the most recent edition of the *General Statutes of Connecticut*. Municipal plans and ordinances for each of Connecticut's 36 coastal towns are collected and arranged by town in pamphlet files for easy access.

Other subject areas in the library include "Natural Resources," "Recreation," "Land Use Planning," "Reference Material," and, of par-

ticular importance today, "Energy." Materials in the "Energy" area include Connecticut's Energy Outlook (The Connecticut Energy Advisory Board's annual 20-year forecast). There are also national and regional studies on nuclear power production, offshore oil and gas development, supertankers, oil spills, and environmental impact statements for various energy and energy related projects.

The library also contains sets of several major national and northeastern studies and inventories. These include *Coastal Ecosystems of the U.S.* by Odum, et. al; the *1952 Beach Erosion Control Report of Connecticut* by the Army Corps of Engineers; *The Long Island Sound Regional Study* by the New England River Basins Commission; and many more.

The collection also includes much material specific to Connecticut and its coastal zone. Whether your interest is in the state's cultural and historic heritage, its natural resources, its present and future plans, its population, or its industries, chances are the CAM library has what you're looking for. ■

Irene Gauthier received her Master of Library Science in 1978 from the University of Rhode Island's Graduate Library School and is currently working toward a Master of Marine Affairs at the URI Graduate School. Philip Renzullo is a 1979 graduate of Trinity College in Hartford with a B.S. in Biology. He is working on a Ph.D. in Wildlife Biology at Cornell University.

208 water quality management

208 Reviews Leachate and Runoff Technology

The Clean Water Act has as its goal the attainment of swimmable/fishable water quality wherever possible by 1983. One of the most persistent obstacles to be overcome if that goal is to be reached is the problem of landfill leachate.

Leachate is liquid that has percolated through solid waste or other mediums and has extracted dissolved or suspended materials. In some cases these materials may be toxic substances, especially if the leachate originates at an industrial waste disposal site.

When leachate leaves the landfill it travels downgradient to nearby surface waters and/or groundwater. Depending upon the volume and characteristics of the leachate as well as the size and flow of the receiving water body, the resulting contamination could significantly lower the quality of the receiving water.

Unfortunately, a landfill can generate leachate for decades after it has been closed down. Very little can be done to ameliorate the pollution, short of re-excavating the entire facility. This, of course, would not be feasible for several reasons. The cost is prohibitive, and even if the material were removed it would have to be re-buried.

In the instance of contaminated groundwater, the problem is intensified. Because groundwater travels so slowly, it can take many years for a leachate plume to reach a major aquifer. Once the aquifer is contaminated, the pollution can persist for hundreds of years, effectively rendering a potential water supply useless for the foreseeable future.

The goal of the Connecticut 208 Program is to assess the impact of landfill leachate and surface runoff on the State's surface and

groundwaters. In addition, management recommendations will be made for the application of existing techniques for leachate control and treatment that are feasible for Connecticut. The Valley and Windham Regional Planning Agencies have been selected to conduct this effort.

These agencies will inventory and review all available data concerning the impact of landfill leachate on water quality. The Departments of Health and Environmental Protection have landfill geochemical and hydrologic data on file from stream sampling sites and monitoring wells. In addition, other 208 areawide and statewide agencies have compiled state-of-the-art information on landfill leachate impact assessment.

Once the inventory and review of data is completed, an evaluation of information on the movement of sub-surface leachate can be conducted. The attenuation capacities of soils representing different hydro-geological settings common to Connecticut will be examined as well as different landfill design configurations.

The management aspects of leachate control will also be considered. The current design and operations guidelines for Connecticut solid waste sites will be reviewed and compared with both state-of-the-art information and current design and operations guidelines of neighboring states. The proposed EPA regulations contained in the Resource Conservation and Recovery Act will be reviewed as well.

Once these aspects have been considered, best management practices (BMP's) can be evaluated in terms of effectiveness of leachate control, applicability to the hydro-geologic setting of Connecticut, cost, etc. The BMP's, as well as other management considerations, will become part of a landfill management recommendations package which will be presented to the DEP for eventual consideration as statewide landfill management policy. ■

By Joseph M. Rinaldi,

208 Public Participation Coordinator,
209 Court St., Middletown, Ct. 06457

Ground Water Seminars

The Institute of Water Resources of the University of Connecticut will present the following seminars in its continuing effort to bring timely and pertinent information on water resources to interested persons and groups.

The seminars will be held in Rm. 200, Nathan L. Whetten Graduate Center, the University of Connecticut, Storrs. Seminars (except the December 19 seminar which begins at 3 p.m.) will begin at 3:30 p.m.

November 21, 1979

"Local Ground Water Protection"

Mark Possidento, Director, Connecticut Areawide Waste Treatment Planning Board, Middletown

December 19, 1979

"Water Pollution from Landfill Leachates"

Dr. Philip T. Gidley and Dr. James S. Gidley, Gidley Laboratories, Inc., Consultants, Chemical/Environmental Sciences, Fairhaven, Massachusetts

January 16, 1980

"The Use of Sewage Sludge for Corn Silage Production"

Dr. R. William Wengel and Dr. Gary F. Griffin, Plant Science Department, Agronomy Section, The University of Connecticut, Storrs

Seminars in the series are also scheduled for February 20, March 19, and April 16, 1980. ■

Trailside Botanizing

by G. Winston Carter

Lance-Leaved Goldenrod *Solidago graminifolia*

"Nature abhors monotony." This is why each season brings with it interesting changes. What better illustration of this saying than the fall display of goldenrods with their tremendous diversity. There are over 125 different species in the world and over 60 species in our area alone. Look at some of the different species in fields and along roadsides. The lance-leaved goldenrod with its flat-topped flower clusters and narrow pointed leaves is an easy one to start with.

Individual species of goldenrod are difficult to recognize but there are some short cuts to help the beginner become familiar with at least a few of the more common species. Goldenrods, with their alternate leaves, have either



parallel veining or feather-like venation. This helps to narrow down the different species as a first step. The other helpful hint is to observe the silhouette of the flowers. They can be grouped as plume-like, elm branched, club-like, wand-like or flat-topped. Beyond this, classification becomes much more difficult because the individual flower heads of goldenrod are very inconspicuous.

Goldenrods are great favorites with many wildflower fanciers. Alabama, Nebraska, and Kentucky have selected goldenrod for their state flower. It has even been suggested for our national flower, but some people have objected because they believe it is responsible for hay fever. Present evidence, however, indicates that the pollen of goldenrod is too heavy to be wind-borne. Ragweed, which blooms at the same time, is believed to be the main cause.

Despite the possible hay fever association, Europeans have introduced some of the taller goldenrods from the New World for their gardens.

DEP citizens' bulletin

State of Connecticut
Department of Environmental Protection
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DEP Citizens' Bulletin Supplement

Public Hearings

October 16, 1979; 10 a.m.

Rm. 221, State Office Bldg., Hartford
To consider application of Albert A. Landino, New Haven, to relocate approximately 1100 feet of a brook known as Cranston Brook in conjunction with development of an industrial park area and access road north of Middletown Ave.

October 17, 1979; 7:30 p.m.

Town Hall, River Street, Milford
To consider application of Commodore Marina, Inc., to construct bulkheads, place fill, and do incidental excavation in tidal wetlands and beyond mean high water in Milford Harbor.

October 19, 1979; 10 a.m.

Rm. 221, State Office Bldg., Hartford
To consider application of Edward A. Trepal to excavate approximately 10,000 cubic yards of material to create a pond east of intersection of Palmer and Ridge Road in Chaplin.

October 23, 1979; 7:30 p.m.

City Hall, River Street, Milford
To consider application of T & M Building Co. & Nector, Inc., to fill 0.3 acres of wetlands, regrade approximately 480 feet of drainage ditch beyond mean high water and within designated tidal wetlands, and construct a stormwater outfall below mean high water in the Burwells Beach area of Milford.

October 24, 1979; 10 a.m.

Rm. 221, State Office Bldg., Hartford
To consider application of Toby Karlin to fill approximately 29,970 square feet of inland wetlands in conjunction with construction of Pond Tower Condominiums and the construction of a pond off Foran Road in Milford.

Permits Denied

7/9/79: Peter Secondi, Milford

To retain 26 cubic yards of washed stone fill on wetlands of Gulf Pond, Milford.

7/26/79: Mrs. Daniel Niver, Glastonbury

Application to extend a bulkhead and place additional fill was denied. Application to retain and maintain timber bulkhead on tidal wetlands for Masons Island, Stonington, was approved.

8/10/79: Joseph & Anna Boccanfuso, Westport

To conduct a regulated activity on tidal wetlands in Westport.

9/12/79: William R. Chaney,

To conduct a regulated activity within tidal wetlands of the Hammock River, Clinton.

Permits Issued

Water Compliance

6/4/79: The Lewis Engineering Co., Naugatuck
To discharge 12,000 gallons per day of treated wastewaters to the Naugatuck River Watershed (Long Meadow Brook). Conditions.

6/4/79: The Risdon Manufacturing Co., Naugatuck
To discharge 144,000 gallons per day of treated wastewaters to Long Meadow Brook (Naugatuck River watershed). Conditions.

6/4/79: Thomas S. Faria Corp., Uncasville
To discharge non-contact cooling water, boiler blowdown, and process wastewater to the Oxoboxo River. Conditions.

6/11/79: Cly-DeI Manufacturing Co., Inc.

Waterbury
To discharge 50,000 gallons per day of non-contact cooling water to unnamed tributary of the Mad River.

6/11/79: Timex Corp., Middlebury

To discharge 51,500 gallons per day of treated wastewaters to Long Swamp Brook. Conditions.

6/11/79: Donham Craft, Inc., Naugatuck
To discharge 150,000 gallons per day of treated wastewaters to Fulling Mill Brook. Conditions.

6/20/79: Second District Water Co.,

South Norwalk
To discharge 150,000 gallons per day of settled backwash water and 35,000 gallons per day of filtered sludge water to Belden Hill Brook. Conditions.

6/20/79: The Turner and Seymour Manufacturing

Co., Torrington
To discharge 4,500 gallons per day of cooling water, 5,000 gallons per day of boiler blowdown, and 120,000 gallons per day of waste treatment waters to Gulf Stream. Conditions.

6/20/79: Colonial Bronze Co., Torrington

To discharge 8,160 gallons per day of treated wastewaters to Troy Brook. Conditions.

6/20/79: Waterbury Buckle Co., Waterbury

To discharge 338,475 gallons per day of treated wastewaters, as well as cooling water and boiler blowdown to the Naugatuck River. Conditions.

6/20/79: Devine Brothers, Inc., Norwalk

To discharge a maximum of 6,000 gallons per day of treated wastewaters to the Norwalk River. Conditions.

6/25/79: Ernest Joly and Sons, Inc., Danielson

To discharge 150,000 gallons per day of treated process wastewaters to Quandock Brook.

6/25/79: New Haven Trap Rock Co., Hamden

To discharge 1,100,000 gallons per day of treated process wastewater to Long Marsh Creek. Conditions.

6/25/79: Union Carbide Corp., New York

To discharge 23,000 gallons per day of cooling tower blowdown to an unnamed tributary of the Connecticut River. Conditions.

6/25/79: The Connecticut Water Co., Clinton

To discharge 10,000 gallons per day of treated process wastewater to the West River. Conditions.

6/25/79: City of Middletown Water Dept.

To discharge 200,000 gallons per day of treated process wastewaters to the Connecticut River. Conditions.

6/25/79: The Rogers Manufacturing Co., Rockfall

To discharge 288,000 gallons per day of non-contact cooling water to the Coginchaug River. Conditions.

6/25/79: Ano-Coil Corp., Rockville

To discharge non-contact cooling water to the Hockanum River. Conditions.

6/27/79: E.I. duPont de Nemours & Co., Fairfield

To discharge 80,000 gallons per day of non-contact cooling water to Pine Creek.

6/27/79: Delta Rubber Co., Moosup

To discharge 187,000 gallons per day of non-contact cooling water to the Quinebaug River. Conditions.

6/27/79: Bevin Bros. Manufacturing Co.,

East Hampton
To discharge 7,290 gallons per day of wastewaters to Pocotopaug Creek. Conditions.

6/27/79: Risdon Manufacturing Co., Waterbury

To discharge 99,500 gallons per day of wastewaters to Smugg Brook. Conditions.

6/27/79: Scovill Manufacturing Co., Watertown

To discharge 353,000 gallons per day of wastewaters to Echo Lake Brook. Conditions.

6/27/79: Anchor Fasteners, Waterbury

To discharge wastewaters to Steele Brook. Conditions.

6/27/79: The Napier Co., Meriden

To discharge 123,000 gallons per day of process waters and cooling waters to the Quinnipiac River. Conditions.

6/27/79: Winchester Electronics Div., Litton

Systems, Inc., Oakville
To discharge 57,600 gallons per day of wastewaters to Steele Brook. Conditions.

7/10/79: Diventco Corp., New Milford

To discharge 17,000 gallons per day of batch treatment waters and cleaner and scrubber rinse waters to the Housatonic River. Conditions.

7/10/79: Atlantic Machine Tool Works, Inc.,

Newington
To discharge 44,900 gallons per day of wastewaters to Piper Brook. Conditions.

7/10/79: Burndy Corp., New Milford

To discharge 3,840 gallons per day of wastewaters to the Housatonic River. Conditions.

7/10/79: Stauffer Chemical Co., Westport

To discharge non-contact cooling water to an unnamed tributary of Hartford Reservoir No. 1. Conditions.

8/8/79: Allen Manufacturing Co., Bloomfield

To discharge 30,000 gallons per day of cooling water and wastewaters to Mill Brook. Conditions.

8/14/79: Town of Bethel - Eureka Water

Treatment Plant
To discharge 22,000 gallons per day of clarified filter backwash water to Eureka Lake. Conditions.

8/20/79: Simkins Industries, Inc., New Haven

To discharge 940,000 gallons per day of wastewaters to the Mill River. Conditions.

8/20/79: Torin Corp., Torrington

To discharge 44,640 gallons per day of process wastes, 242,940 gallons per day of wastewaters, and 21,600 gallons per day of cooling water to the West Branch, Naugatuck River. Conditions.

8/20/79: Ideal Manufacturing Co., Beacon Falls

To discharge 49,000 gallons per day of wastewaters to Hemp Swamp Brook. Conditions.

8/24/79: Ross & Roberts, Inc., Stratford

To discharge 150,000 gallons per day of non-contact cooling water to Ferry Creek. Conditions.

8/24/79: Bridgeport Brass Co., South Norwalk

To discharge 20,000 gallons per day of wastewaters to Keelers Brook. Conditions.

8/27/79: Quality Rolling & Deburring Co.,

Waterbury
To discharge 45,000 gallons per day of wastewaters to Beaver Pond Brook. Conditions.

9/5/79: L & W Industries, East Hampton

To discharge 8,000 gallons per day of wastewaters to Pocotopaug Creek. Conditions.

9/5/79: Monsanto Co., Deep River

To discharge 7,500 gallons per day of open spray cooling tower blowdown to the Deep River. Conditions.

9/5/79: Monsanto Co., Stonington

To discharge 200 gallons per day of non-contact foundry cooling water to Long Island Sound. Conditions.

9/5/79: Allied Thermal Corp., New Britain

To discharge 72,500 gallons per day of boiler blowdown and non-contact cooling water to Willow Brook. Conditions.

9/5/79: Kaman Corp., Bloomfield

To discharge 490,000 gallons per day of wastewaters to the Moosup River. Conditions.

9/5/79: William Prym, Inc., Dayville

To discharge 400,500 gallons per day of wastewaters to the Five Mile River. Conditions.

9/5/79: Cellu Products Co., East Hartford

To discharge an average of 350,000 gallons per day of wastewaters to the Hockanum River. Conditions.

9/5/79: C.E.M. Co., Inc., Danielson

To discharge an average 52,000 gallons per day of wastewaters to the Five Mile River. Conditions.

6/18/79: Mobile Truck Services, Inc., Newington
To discharge 1,000 gallons per day of vehicle wash water to the sanitary sewerage system of the Newington Metropolitan District Commission. Conditions.

6/22/79: The Wallingford Auto Co., Wallingford
To discharge 500 gallons per day of vehicle wash waters to the groundwaters of Meeting House Brook. Conditions.

6/22/79: Crownin Shield Corp., Peabody
To discharge 18,700 gallons per day of sanitary sewage to the Mattabassett District Sanitary Sewerage System in New Britain. Conditions.

6/29/79: Whitney Center, Inc., Hamden
To discharge 22,900 gallons per day of domestic wastewaters to the Town of Hamden Sewerage System. Conditions.

7/2/79: Woodlake Master Condominium Assn., Inc., Woodbury
To discharge 120,000 gallons per day of treated sanitary sewage to the groundwaters in the watershed of the Pomperaug River. Conditions.

7/3/79: Avery Heights Associates, West Hartford
To discharge 10,550 gallons of sanitary sewage per day to the City of Groton Sanitary Sewerage System. Conditions.

7/10/79: Stauffer Chemical Co., Westport
To discharge to the Town of Farmington Sewerage System 1,800 gallons per day of sanitary sewage, 14,000 gallons per day of cage washing water, 12,900 gallons per day of neutralized laboratory wastes, and 400 gallons per day of boiler blowdown. Conditions.

8/20/79: Jamestown Chemical Co., Trumbull
To discharge 300 gallons per day of treated process wastewaters to the Town of West Haven Sewerage System. Conditions.

8/20/79: Bridgeport Elderly Associates, Greenwich
To discharge 12,800 gallons per day to the City of Bridgeport Sewerage System. Conditions.

9/5/79: Fleisher Finishing, Inc., Waterbury
To discharge equalized textile processing wastewaters to the City of Waterbury Sewerage System. Conditions.

Water Resources

Encroachments

8/27/79: Town of Manchester
To place fill riverward of established stream channel encroachment lines for the Hockanum River to provide flood protection for New State Road Well No.3.

8/28/79: George A. Wiles & Assoc., Architects, Fairfield
To construct a parking lot and retention basin and to replace existing riprap on the property of In-Vest, Wilton, on Danbury Road riverward of established stream channel encroachment lines for the Norwalk River.

8/30/79: June Havoc, Wilton
To move an existing structure onto property in Wilton riverward of established stream channel encroachment lines for the Norwalk River.

Dam Construction

8/23/79: Middlefield Lions Club
To repair a dam on an unnamed tributary to the Coginchaug River. Conditions.

8/23/79: Office of Community Development, Enfield
To repair a dam on Freshwater Brook. Conditions.

8/28/79: Leonard H. Bull, Bloomfield
To construct a dam on Meadow Brook in Windsor. Conditions.

9/21/79: Lake Chaffee Improvement Association, Inc.
To repair a dam on Lake Chaffee. Conditions.

Structures & Dredging

8/24/79: Town of Madison
To construct and maintain a sheet steel pile bulkhead and place fill behind it at the Town Beach, extending no more than 15 feet beyond mean high water in Long Island Sound. Conditions.

8/27/79: Paul H. Johnson, Guilford
To construct and maintain a walkway and dock supported by two stone piers with a v-shaped floating dock to extend approximately 105 feet beyond mean high water in Little Harbor at Guilford. Conditions.

9/21/79: Joseph J. Parrilla, Westerly, R.I.
To dredge 32,000 cubic yards of material from a 4½ acre area, to install and maintain a bulkhead from shore to the eastern end of a sunken barge, to retain and maintain the barge, excavate contaminated material, and fill between barge and shore, to install and maintain a floating dock system, a boat launch ramp, and a gas dock. Conditions.

Tidal Wetlands/Structures & Dredging

6/28/79: Randy Maier, Milford
To construct and maintain a pile and timber ramp and float extending from an existing rock wall approximately 40 feet beyond mean high water within tidal wetlands in Milford Harbor. Conditions.

7/31/79: William J. Loxsom, Stratford
To construct and maintain a pile and timber walkway, dock, ramp, and float above the ground surface of a tidal wetlands of the Housatonic Industrial area at Stratford. Conditions.

8/8/79: Hans & Cheryl Bombeck, Riverside
To construct and maintain a walkway with an aluminum ramp leading to a float approximately 70 feet beyond mean high water in the Todd Point Area in Greenwich. Conditions.

8/17/79: Yorkhaven Marina, Inc., Clinton
To drag-line dredge 28,000 cubic yards of mud and peat; to construct and maintain eight finger floats and two floats with attached finger floats; to excavate approximately 180 cubic yards of material for placement of 1100 cubic yards of surge stone; and to construct and maintain 300 feet of floating dock with 13 finger floats within tidal wetlands known as Hammonasset East. Conditions.

8/20/79: William H. and Paul F. Ziegler, Rockfall
To maintain a pile and timber walkway, pilings and floats on or adjacent to tidal wetlands for the Oyster River at Old Saybrook. Conditions.

Tidal Wetlands

7/10/79: Town of East Haven Sewer Commission
To construct a sewage pump station partly within the bounds of tidal wetlands for Momaugin, East Haven. Conditions.

7/25/79: The City of Norwalk
To dredge and then fill 0.09 acres of tidal wetlands for the construction of a portion of the Wilson Avenue - Spring Street Connector in the Wilson Point Area, Norwalk. Conditions.

8/28/79: University of Connecticut Health Center, Farmington
To construct 4 buildings, one building addition, and associated parking within inland wetlands in Farmington. Conditions.

9/11/79: Nicholas Kot, Orange
To fill approximately 2,300 square feet of inland wetlands for a driveway crossing in conjunction with construction of a six-lot subdivision known as Zion Hill Estates in Milford. Conditions.

9/12/79: Connecticut Dept. of Transportation
To replace a bridge carrying Conn. Rt. 611 over the Middle River in the Town of Stafford with a twin 6 foot by 12 foot concrete box culvert. Conditions.

9/19/79: City of New Haven
To reconstruct approximately 240 feet of Hemingway Brook between Eastern Street and Hemingway Street in New Haven. Conditions.

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